

A NEW BLIGHT DISEASE OF RICE CAUSED BY *CURVULARIA LUNATA* FROM UTTAR PRADESH

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ABSTRACT

A typical symptom was observed during routine survey of Central Research field, SHIATS, Allahabad, as nearby villages in the kharif season-2012. The first symptoms were observed on leaves. The spots were brown in colour. The maximum infection was recorded leaf sheath as compared with leaves and kernels. Perusal of the literature, this seems to be first report of blight disease (*Curvularia lunata*) of rice from U.P, India. The fungus was identified as *Curvularia lunata* from Indian type culture collection identification, IARI (ID No. 9062). The pathogenicity of pathogen has been proved by the Koch's postulates method.

KEYWORDS: Rice, *Oryza sativa*, Leaf, Sheath, Kernels Symptoms and *Curvularia lunata*

INTRODUCTION

Rice is the most important cereal crop grown all over the world. During cultivation of rice variety Pant-12, at the tillering stage a new rice disease was observed at central field of Sam Higginbottom Institute of Agriculture, Technology & Sciences. The brown spots appeared on the tillering rice plants. The rice plants were cultivated using standard agronomic practices [7].

The first symptoms appeared on the leaves. Elliptical brown spots were observed. The spots increased in size on leaves. Gradually the colour of the spots changed to brownish black. The length of spots ranged from 0.2 to 1cm (Figure 1). Later the spots appeared on leaf sheath which were dark brown initially with yellow margin and the diseased sheath became yellow and blighted. Initially these spots were similar to the ones on the leaf but later covered the whole leaf sheath (Figure 2). Gradually the disease spread to the kernels. Glumes were discoloured and in severe infection, the rice kernel showed black discoloration (Figure 3).

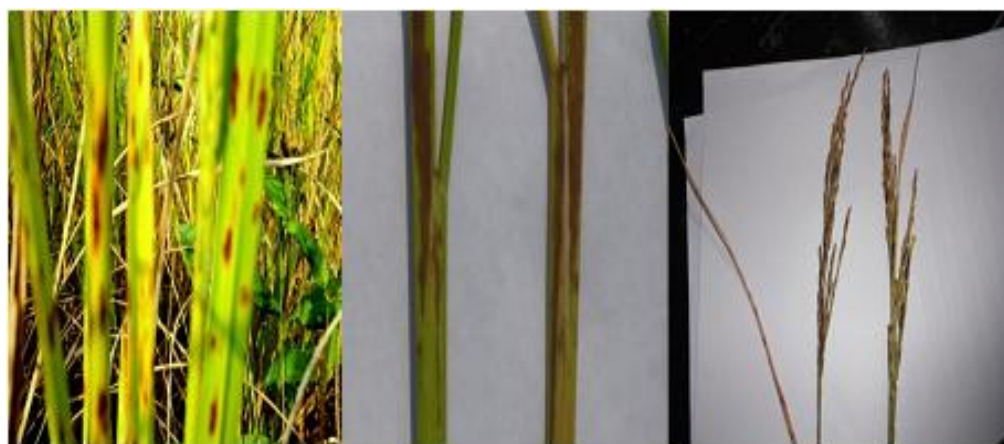


Figure 1: Disease Symptoms
on the Leaves

Figure 2: Disease Symptoms
on the Leaf Sheath

Figure 3: Disease Symptoms
on the Kernels

Micro-scopical examination revealed the presence of conidia of the fungus. The conidia were four celled and generally curved, second cell larger with two middle cells darker than the paler end cells. Conidiophores were branched, septate and dark in colour.

Isolation of the fungus from the infected parts was carried out on PDA (Potato Dextrose Agar) plates following the standard methodology [1]. After two-three days whitish mycelial growth appeared which gradually became greyish black in colour (Figure 4).



Figure 4: Pure Culture of *Curvularia lunata*

Microscopical examination of fungal culture again showed the presence of same type of conidia and conidiophores as mentioned earlier. The morphological characters of the fungus closely resembled those described by [2] and [8] as *Curvularia lunata*. The fungus was identified as *Curvularia lunata* from Indian type culture collection identification, IARI (ID No. 9062) (Figure 5). The pathogenicity of pathogen has been proved by the Koch's postulates method [1].



Figure 5: Conidiophores & Conidia of *Curvularia lunata*

Perusal of literature revealed that incidence of *Curvularia lunata*. has been reported on rice grains discoloration [3], leaf spot [6], seedling blight [5] and sheath rot also reported by [4] in Tamil Nadu, India. Whoever, blight disease due to this pathogen has not been reported previously, and this seems to be first report of a new blight disease of rice from Uttar Pradesh.

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